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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/711,126	11/13/2000	Walter B. Hill JR.	3597-112-01	6456

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EXAMINER
ALVO, MARC S

ART UNIT	PAPER NUMBER
1731	18

DATE MAILED: 03/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/711,126	HILL ET AL.	
	Examiner	Art Unit	
	Steve Alvo	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 February 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14 and 17-42* is/are pending in the application.

4a) Of the above claim(s) *14,25-30 and 40* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13, 17-24, 31-39, 41 and 42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2-10-2003 has been entered.

The restriction requirement was made Final in Paper No. 13.

The rejections over EP 433 258 have been dropped as EP 433 258 does not teach a mixing time and therefore it does not teach the claimed "within 5 minutes of each other".

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3, 4, 6, 8-11, 13, 17-22, 24, 31-36, 38, 39, 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over SARKER et al '497 with or without SARKER et al '914.

SARKER et al '497 teaches treating all types paper pulp (col. 3, lines 3-5) with cellulolytic enzymes and cationic polymer. In Table 1, SARKER et al '497 uses enzyme treatment times of 10 to 60 minutes. This reads on the disclosed "about the same time" which includes adding the two components within 10 minutes of each other, see, page 4, lines 5-6. It is also noted that SARKER et al '497 indicates that the enzyme should react for the pulp for 10 minutes. It does not indicate that the cationic polymer should not be added during the enzyme reaction. It would have been especially obvious to add the enzyme and polymer at times shorter

than the 10 minutes of SARKER et al '497 as SARKER et al '914 teaches that booth the polymer and enzyme could be added at multiple addition points throughout the papermaking process (column 3, lines 60-67) and teaches that the enzyme can be added at any chest prior to the refiner and in the machine chest (col. 3, lines 53-56 and col. 5, lines 10-12). This is the same point where the cationic polymer is added (see SARKER et al '914, claim 1, step (d). TABLE 1 of SARKER et al shows the time to be a rate effective variable for the process of improving the pulp. The discovery of an optimum value of a result effective variable in a known process is ordinary within the skill of one of ordinary skill in the art. See, e.g. In re BOESCH, 205 USPQ2d 215,219 (CCPA 1980). The adjusting the time between additions to optimize the drainage, one of ordinary skill in the art would necessarily and inevitably have optimized the time depending on the desired properties. It would have been obvious to use any well-known pulp including sulfite pulp. See SARKER '914 for adding prior to the machine chest, prior to the refiners and at the vertical tank. See SARKER '914, claims 3 and 5 for a list of equivalent cationic polymers that can be used in the process. It would have been obvious to add different, but equivalent, cationic polymers in each of the multiple feed points taught by SARKER et al.

Claims 2, 7, 12 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over SARKER et al '497 with or without SARKER et al '914 as applied to claim 1 above, and further in view of EP 433 258.

EP 433 258 teaches adding cationic starch to paper pulp during enzymatic treatment increases the strength of the paper. It would have been obvious to add the cationic starch to the pulp of SARKER et al '497 to increase the paper strength as taught by EP 433 258. It would

have been obvious to add the starch at various addition points in the same manner as the cationic starch and enzyme of SARKER '914.

Claims 5 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over SARKER et al '497 with or without SARKER et al '914 as applied to claim 1 above, and further in view of WO 99/43780.

WO 99/43780 teaches stabilizing enzymes during pulp treatment by using the enzyme in combination with a polyamide oligomer. It would have been obvious to add the polyamide oligomer of WO 99/43780 to stabilize the enzyme of SARKER '497.

The arguments that the art does not teach simultaneous addition of the enzyme and the cationic polymer is not convincing as the instant specification defines the term "about the same time" as adding these two components within 10 minutes of each other, page 4, lines 5-6 or the claimed "within 5 minutes". This does not patentably define over the addition of SARKER '497 In evaluating the reference, it is proper to take into account not only the specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom. See In re Prada, 401 F.2d 825,826, 159 USPQ 342, 344 (CCPA 1968). Base upon the teachings of SARKER '497, one of skill in the art would not expect any difference in results based on the order of addition of these two ingredients, all of which are reasonably expected to form the same mixture for the same purpose.

The argument with respect to the addition of starch is not convincing as no criticality has been shown as to when the starch is added. The use of starch to increase the strength of paper is well known in the art. As set forth above all the ingredients would have been expected to form the same final mixture, irrespective as to the order of addition.

Table 1 of SARKAR et al' 497 shows CSF Values of 558.84 for 35 minutes (column 6, Run 30) and 439.75 for 60 minutes (column 6, Run 3) and 645.96 for 10 minutes (column 6, Run 26). Thus the CSF values appear to increase for shorter times between addition of the cationic polymer and the enzyme, depending on the other conditions. It would have been obvious from the data of Table 1, to increase the time between additions for further improvements to the CSF. Applicant has not compared the instant 5 minutes to the 10 minutes disclosed by SARKAR et al '497.

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Any inquiry concerning this communication or earlier communications from the **primary examiner** should be directed to **Steve Alvo** whose telephone number is **(703) 308-2048**. The Examiner can normally be reached on Monday - Friday from **6:00 AM - 2:30 PM** (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Steve Griffin, can be reached on 703-308-1164.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Group receptionist** whose telephone number is **703-308-0661**.

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MSA
3/16/03

STEVE ALVO
PRIMARY EXAMINER
ART UNIT 1731